KNOWLEDGE AND PRACTICE OF CAREGIVERS/MOTHERS OF UNDER-FIVE CHILDREN ADMITTED WITH DIARRHOEA AT THE REFERRAL HOSPITAL, NORTHERN CAPE

by

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submitted in accordance with the requirements for

the degree of

MASTER OF ARTS

In the subject

Public Health

at the

University of South Africa

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Date submitted: October 2018

DECLARATION

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I declare that the above dissertation is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

24/10/2018

SIGNATURE DATE

DEDICATION

I would like to express my gratitude to the Lord the Almighty who has given me the courage to continue with studies even in difficult times of my life.

> *There shall not any man be able to stand before thee all the days of thy life as I was with Moses, so I will be with thee!! I will not fail thee, nor forsake thee!! Joshua 1:5.*

In memory of my late mom, Ms Nozizwe Abegail Mbande, who passed away in 2005, for her encouragement and wisdom during her days of her life in this world.

To my children Gagi, Chulumanco, Monnette Monie and Ngcali, who always see me as a role model and always encourage me to study in order to gain more knowledge. I LOVE YOU, GUYS!!

To my husband for his unwavering support.

A special thanks to my supervisor Prof Thuledi Makau for guidance and ongoing support throughout the studies.

ACKNOWLEDGEMENTS

I would like to thank my supervisor Prof Thuledi Makua who has taken considerable efforts to support and guide me through the study period.

To Mr Richard Jones for granting me permission to conduct the study at his institution.

ABSTRACT

KNOWLEDGE AND PRACTICE OF CAREGIVERS/MOTHERS OF UNDER-FIVE CHILDREN ADMITTED WITH DIARRHOEA AT THE REFERRAL HOSPITAL, NORTHERN CAPE

STUDENT NUMBER: 7954905

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The purpose of this study was to explore the knowledge and practices of caregivers/mothers of under-five children with diarrhoea-related illnesses admitted at the referral hospital.

The setting for this qualitative study was the referral hospital located in the Sol Plaatje Municipality, Northern Cape Province.

Unstructured interviews were conducted with caregivers/mothers of under-five children with diarrhoea admitted to the referral hospital. Colliazzi's seven steps of data analysis (1998) as cited in Bazeley (2013:65) were used to analyse data.

The study population was the caregivers/mothers of children with diarrhoea admitted to the referral hospital.

The findings assisted us in understanding the knowledge the caregivers/mothers had with regard to the management of diarrhoea and in improving the health education guide used to teach caregivers/mothers.

Key words: Diarrhoea, Knowledge, Caregiver, Practice

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CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

The United Nations Children's Fund and World Health Organization (2009:9) defines diarrhoea as having loose or watery stools at least three times per day, or more frequent than normal for an individual.

The WHO/UNICEF (2009:9) states that the Rotavirus is the leading cause of acute diarrhoea and is responsible for about 40% of all hospital admissions among under-five children worldwide.

Kapwata, Mathee, Le Roux and Wright (2018:1) state that the known risk factors for diarrhoea disease are poor sanitation, lack of personal hygiene and inadequate water supplies.

According to UNICEF data (2018:1), diarrhoea is the leading killer of children worldwide and was responsible for about 8% of all under-five children's deaths in 2016, despite the availability of simple, low-cost, effective treatment.

Beyene, Deressa, Kumie and Grace (2018:18) state that despite the improvements in water and sanitation coverage, diarrhoea is still the leading cause of morbidity and mortality among under-five children in low-income countries and the studies have shown that in Ethiopia diarrhoea is still a major health problem.

Moropeng, Budeli, Monyatsi and Momba (2018:1) state that the recent report shows that diarrhoea remains one of the leading causes of morbidity and mortality in under-five children in South Africa.

According to the District Health Barometer (2016/17:84), diarrhoea disease remains the leading cause of children deaths outside the neonatal period in South Africa, despite the availability of cos- effective preventative measures. In 2015, it accounted for about 10,1% of all under-five deaths.

The UNICEF/WHO (2009:31) recommends the preventative and treatment plan worldwide to control diarrhoea in children. Preventative measures include rotavirus and measles vaccinations, the promotion of early breastfeeding and vitamin supplementation, the promotion of washing hands with soap and the treatment of stored household water. The treatment plan includes fluid replacements to prevent dehydration and zinc treatment.

1.2 STATEMENT OF THE RESEARCH PROBLEM

The vision for South Africa is to reduce the under-five mortality rate from 56 to below 30 per 1 000 live births by 2030 (NDP 2011:333). Mahopo (2018:2) reports that according to the District Health Barometer findings (DHB 2016:17), the Northern Cape had the highest fatality rate (3,8%) of under-five children due to diarrhoea from April 2016 to March 2017. This measurement is the proportion of all under-five children who were hospitalised and died due to diarrhoea in 2016/17 financial year. According to the DHB (2016/17:84), the target for the Annual Performance Plan (APP) of the National Department of Health (NDOH) for 2016/17 for the under-five admission deaths due to diarrhoea was to reduce the deaths by 3,3%. The Northern Cape Province ranks top amongst the worst-performing provinces in the country and is at 3.8%, followed by the Eastern Cape and North-West (DHB 2016/17:84). These hospitalised children who died has raised concerns over and generated an interest and need to investigate the mothers/caregivers' knowledge on the management of childhood diarrhoea formally and recommend the necessary intervention strategies based on the findings of the study in order to reduce diarrhoea deaths to a manageable level.

1.3 DEFINITIONOF KEY CONCEPTS

Diarrhoea: The UNICEF/WHO (2009:9) defines diarrhoea as having loose or watery stools at least three times per day, or more frequent than normal for an individual.

Knowledge: According to the Oxford English Dictionary (2010, “context”), knowledge is what you know and understand about something.

Caregiver: Any person other than the parent or legal guardian who cares for a child, with implied or expressed consent of a parent or guardian of the child (Children’s Act no 38 of 2005:18).

Mother: A female parent or a woman in relation to her child or children (Meaney 2016:57)

Traditional medicine: Traditional medicine (TM) is defined as the sum total of knowledge, skills and practices based on models, beliefs and perceptions, ethnic to different cultures that are used to maintain health, as well as prevent, diagnose, improve or treat physical and mental illness (WHO 2003) cited in (Hughes et al 2012:470).

1.4 PURPOSE

The purpose of this study was to explore the knowledge and practices of caregivers/mothers regarding the management of diarrhoea in under-five children.

1.5 OBJECTIVES

- To assess the knowledge and practices of the caregivers/mothers of under-five children regarding the management of diarrhoea in children.

- To improve the health-education guide on diarrhoea management based on the findings.

1.6 RESEARCH QUESTIONS

One typical grand-tour question was used to explore the knowledge and practice of caregivers/mothers of under-five children regarding the management of diarrhoea.

Could you describe how you manage diarrhoea in your child?

Follow-up questions were asked, depending on the participant's responses.

1.7 RESEARCH METHODOLOGY

Qualitative research was conducted to assess the knowledge and practice of caregivers/mothers of under five children admitted with diarrhoea. The researcher selected the qualitative method to gain new insights into and to explore new ideas on the concept under investigation.

According to Creswell (2014:4), a qualitative research is an approach to explore and understand the meaning individuals or groups ascribe to a social or human problem

1.7.1 The research design

An exploratory research design was used to search out the information on the knowledge and practice of the caregivers/mothers regarding childhood diarrhoea. By using an exploratory design, the researcher wanted to gain more information on the topic that may assist to understand the increase of diarrhoea deaths in under-five children at a referral hospital in the Northern Cape, and fill in gaps in the existing knowledge.

1.7.2 Population and sample selection

The population for the proposed study was the caregivers/mothers of all under-five children admitted at a referral hospital. The inclusion criteria were the caregivers/mothers of under-five children admitted with diarrhoea. They were targeted because they had already experienced the management of diarrhoea in children; therefore, they were able to reflect on experiences they had. The caregivers/mothers of children above five years and those admitted with other conditions were excluded from the study.

1.7.3 Data collection

Face-to-face individual interviews were conducted with each of the participants to explore their knowledge in managing diarrhoeal conditions. The study participants were identified through the admission register. They were visited in the wards to request for their participation in the study. The study was explained to all the willing participants and verbal consent and permission to use the voice recorder was requested. A grand-tour question was used to obtain the information from the study participants and the interview structure was adapted according to participants' responses as the interview progressed. The researcher conducted the interviews until data saturation was reached after the 15th participant.

1.7.4 Data analysis

Data management was done according to Bazeley's (2013:63) seven steps of managing Qualitative Databases. The study used the thematic data analysis to organise and reduce data into meaningful information. The data was transcribed and categorised into themes for the purpose of presentation, using an adapted version of Collaizzi's (1978) seven steps of analysis, as cited in Bazeley (2013:65). The seven steps of analysis were described and discussed in detail in Chapter 3.

1.7.5 Trustworthiness

The researcher ensured trustworthiness through:

Credibility: The interviews were tape-recorded and transcriptions were made of each interview (referral adequacy). The researcher verified with some participants whether the transcribed data were a truthful version of their experience.

Confirmability: An “audit trail” was kept for the entire process to confirm data. The researcher ensured that any of her own thoughts and preconceived notions was bracketed and the findings of the study reflect the participants’ voice and the condition of the investigation.

Dependability: All the processes and products of the study were systematically documented, and made available and accessible to any other researcher and the supervisor for conducting an audit trail.

Transferability: The researcher provided sufficient detail about the self (the researcher as an instrument) and the research context, processes and participants for a reader to be able to decide whether the findings could be justifiable to be applied to other settings.

1.7.6 Ethical considerations

Privacy and confidentiality were maintained at all times. All findings were portrayed in a confidential manner; no personal or identifiable information was recorded or printed in the study.

Ethical clearance to conduct a study was obtained from the committee of the Department of Higher Degree of the Department of Health Studies at the University of South Africa. A request to conduct a study at the identified hospital was approved by the Chief Executive Officer of the hospital. Another request to conduct a study in the province was approved by the Provincial Ethics Committee. The study commenced when the ethical approval had been obtained from the research ethics committee.

Informed consent: A verbal request was made to the study participants to obtain their permission to participate in the study. The study participants were provided with information regarding the study, which includes the research topic, purpose, benefit of the study, voluntary participation in the study, and that anyone was free to withdraw from participating without any coercion or penalty.

Privacy and confidentiality: Participants' rights to privacy and confidentiality were protected. The interviewer and the interviewee were in a private room during data collection. No names or persons' identification were reflected on the records, only codes were used. Participants were informed that the findings of the study would not be published without their consent.

Autonomy: The participants were assured of freedom to refuse to participate in research study or, if agreed, they could withdraw from the research study at any time without any penalty and that the decision to participate in the study was voluntary.

Beneficence: The researcher ensured the wellbeing of the participants by providing protection from discomfort and harm. Questions and probing techniques were asked in a way that would not hurt the participants emotionally. Participants' culture was also respected by being non-judgemental towards them.

Justice: Fairness to all participants was practised and promises were fulfilled. For example, the researcher adhered to the agreed-upon time for the interviews as scheduled. The participants were assured that their names would not be mentioned anywhere in the research project. Anonymity was ensured by allocating each participant with a code name. Their identity remained anonymous and their responses and records were kept confidential.

1.8 SIGNIFICANCE

The findings of the study will give guidance to the health educators and health promoters to plan and address the identified gaps and provide the necessary interventions to reduce the under-five diarrhoea deaths to an acceptable level. The results of the study will also provide baseline information for researchers and programme planners, since it is the first of its kind in the province.

1.9 SCOPE AND LIMITATIONS

The study focused on the caregivers/mothers of children admitted to the referral hospital for the management of diarrhoea-related illnesses. The small population sample size caused the findings not to be generalised and the selection criteria focused on caregivers/mothers of under-five children only.

1.10 STRUCTURE OF THE STUDY

The dissertation is structured as follows:

Chapter 1: Orientation to the study

This is the first chapter of the dissertation, which provides an overview of the study. It outlined the background, purpose, problem statement, objectives and the significance of the study. This chapter mainly introduces the research study.

Chapter 2: Literature review

The second chapter of the dissertation gives a detailed literature pertaining to the topic under study. This chapter provided different views by several authors in relation to the topic under study.

Chapter 3: Research design and method

In the third chapter of the dissertation, the researcher covered the various methodological steps involved in conducting this research. A qualitative exploratory design was used in this study. Sampling and data collection procedures were spelled out. Ethical issues related to sampling and data collection were discussed.

Chapter 4: Analysis, presentation and description of the research findings

In this chapter, the researcher analysed data using thematic data analysis. An adapted version of Collaizzi's (1978) seven steps of analysis, as cited in Bazeley (2013:65) was used. Data were presented in themes.

Chapter 5: Conclusion and recommendations

In this concluding chapter of the dissertation, the researcher drew a conclusion and made recommendations pertaining to the findings of the study.

1.11 CONCLUSION

The knowledge gained from this study will serve as reference for communities with similar situations. It is important to enhance the mothers/caregivers' knowledge on the management of diarrhoea in under-five children in order to improve the health status of $this age group and reduce the medical expenses related to diarrhoea, which is a burden on the healthcare system.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, the researcher will deal with the overview of the literature relevant to the study under investigation. The literature review will be guided by the research problem and the research objectives. This review summarises the existing literature on the knowledge and practices of the caregivers/mothers on the management of diarrhoea in under-five children at a referral hospital in the Northern Cape. The researcher looked at various reports and studies conducted on the study globally, and including the country of study, South Africa. The publication used on the current study are relatively distributed from 2017-2018. The number of publications reporting on this study varies from knowledge on ORS preparation and utilisation, food restriction, inappropriate use of medication and healthcare-seeking behaviour.

2.2 THE SCOPE OF THE LITERATURE REVIEW

The literature review is structured into four main aspects, namely the global burden due to diarrhoea in under-five children, the global response to diarrhoea in this age group, the burden caused by diarrhoea among under-five children in South Africa, and the country's response to the burden caused by diarrhoea among children under five years.

2.2.1 Global burden due to diarrhoea among under-five children

The UNICEF report (2018:1) states that diarrhoea is the leading killer of children; it accounted for about 8% of all deaths among under-five children in 2016, which means that over 1300 children die every day (about 480 000 children each year), despite the

availability of the simple, effective treatment. Most of the deaths occur amongst children younger than two years living in South Africa and Sub-Saharan Africa.

Getachew *et al.* (2018:1) state that globally, diarrhoea remains one of the main causes of morbidity and mortality amongst children, and it accounts for about 21% of all deaths among under-five children in developing countries.

Moropeng, Budeli, Mpenyana-Monyatsi, & Momba (2018:2) state that about 88% of waterborne diseases have been reported to be attributed to the unsafe drinking water supply, inadequate sanitation, and poor hygiene, and about 6000 under-five children die annually in developing countries due to these diseases.

Yaya *et al.* (2018:1) state that diarrhoea is a major contributor to under-five mortality in Sub-Sahara. It accounts for the bulk of the global under-five mortality rate in which millions of children die from diarrhoeal disease each year.

Soucheray (2018:1) reports that most countries have noted a reduction of diarrhoea diseases in under-five children between 2000 and 2015. However, the burden of diseases was unequally distributed across the continent, with Nigeria having the most variance of disease among African countries, ranging from 1,6 deaths per 1 000 children in Bayelsa State in the South West, to 9,5 deaths per 1 000 in Yobe State in the North East. Some parts of Central African Republic, Gabon, Ivory Coast, Nigeria and Zimbabwe have been experiencing an increase in disease over 15 years. The reporter also mentions that in Africa, Lesotho had the highest diarrhoea fatalities (18 cases per 10 000 children, 95% credible interval, 12 to 25), followed by Mali (17, 12 to 24), Sierra Leone (16, 11 to 23), Benin (16, 11 to 21) and Nigeria (16, 11 to 21).

Mahopo (2018:1) reports that, according to the latest findings of the District Health Barometer (2016/17), diarrhoea continues to be the leading killer among under-five children in South Africa. It is reported that the Northern Cape had experienced the highest deaths of under-five children (3,8%) due to diarrhoea, followed by the Eastern Cape (3,7%) and North West (3,2%).

2.2.2 Global response to diarrhoea among children under-five years

The WHO/UNICEF (2004:1) recommends the use of newly formulated oral rehydration salts (ORS), which contains low concentrations of glucose and salts, zinc supplements and the use of appropriate fluids to prevent dehydration, breastfeeding, continued feeding and selective use of antibiotics to reduce child mortality due to diarrhoea. Families and community members' involvement are critical in ensuring that children with diarrhoea are managed according to these recommendations to prevent further deaths.

The WHO/UNICEF (2004:31) adopted a 7-point plan package of prevention and treatment measures to reduce diarrhoea in children. This includes a treatment package that focuses on fluid replacement and zinc treatment as well as the prevention package, which includes Rotavirus and measles vaccinations, promotion of early and exclusive breastfeeding, vitamin A supplementation, promotion of handwashing with soap, improved water supply quantity and quality, which includes the treatment and safe storage of household water and community-wide sanitation promotion.

The WHO/UNICEF (2012:5) and UNICEF (2015:28 developed an integrated package to train community health workers on clinical skills on the assessment and management of illness in children from 2 to 59 months of age at community level.

In their study conducted in Botswana on the global problem of childhood diarrhoeal disease, Mokomane et al (2018:1) report that vaccination against the Rotavirus has emerged as the key effective measure to prevent morbidity and mortality from childhood diarrhoea.

The WHO/UNICEF (2013:1) developed an integrated global action plan to end preventable deaths due to pneumonia and diarrhoea in children by providing a universal coverage of immunisation against these diseases and ensuring the provision of appropriate treatment for children who are suffering from it.

2.2.3 Diarrhoeal diseases among children under five years in South Africa

Van der Westhuizen, Slogrove, Kunneke and Kruger (2018:1) conducted a study in South Africa on factors associated with severe dehydration and they state that acute diarrhoea

remains a leading cause of childhood death and a total of 68% (71 of 104) children experienced a delay in seeking care, and 51% (54 of 104) had severe dehydration with no in-hospital deaths.

Kapwata *et al.* (2018:1) state that in South Africa, diarrhoeal disease is the third leading cause of death among under-five children. It is also the eighth-most frequent cause of death in the country, and accounts for 3% of all deaths among individuals of all ages.

Statistics South Africa report (2015:10) reports that diarrhoeal disease is one of the leading causes of illness and deaths in South Africa. It accounts for 20% of all under-five children's death, and according to the 2016 General Household Survey (GHS) there were over 60 000 cases of childhood diarrhoea per month and nearly about 9 000 children died in the same year.

2.2.4 The South African response to diarrhoeal diseases among children under five years

Statistics South Africa report (2015:4) state that South Africa has made progress to prevent further under-five morbidity and mortality due to diarrhoea and other diseases. Policies and guidelines have been developed and implemented; specific programmes have been created, and special committees have been established. The following are the key drivers of progress in child health:

- In South Africa, a national steering committee represented by various stakeholders from different departments and non-governmental organisations have been established to report on child societal interventions to the President's office.
- The Perinatal Problem Identification Programme (PPIP) was established in 1999 in response to the high burden of neonatal deaths to investigate the deaths of new-borns in South Africa and to make recommendations for the improvement of perinatal care.
- The Minister of Health established the National Perinatal and Neonatal Morbidity and Mortality Committee in March 2008 to audit all perinatal and neonatal deaths

occurring in the country, as well as to produce annual reports and make recommendations on solutions for the reduction of perinatal and neonatal deaths.

- The Minister of Health has established a ministerial Committee on Morbidity and Mortality in Children Under 5 Years (CoMMiC), to review childhood deaths in South Africa and to facilitate the development of appropriate standards of health care for South African children.

- In South Africa, pregnant women and under-five children receive free healthcare services to promote healthcare-service attendance.

- In South Africa, ward-based community health-worker (CHW) outreach teams (WBOTs), were established in 2011 to contribute towards decreasing child mortality and other health-related programmes.

- The Integrated Management of Child Illnesses (IMCI) approach was introduced in 1994 to improve the training programme of primary health-care staff and to identify and manage child illnesses.

- Many households have been provided with a clean water supply and proper sanitation to improve the lives of South Africans. These new developments have contributed to the reduction in child morbidity and mortality.

- In South Africa, the National Hand Hygiene Strategy has been introduced to prevent and reduce the prevalence of diarrhoea and other diseases related to poor water, sanitation and poor hygiene, especially in under-five children through safe hand-washing practices. (*National Hand Hygiene Behaviour Change Strategy* 2017:7).

2.2.5 The knowledge and practice of caregivers/mothers of under-five children regarding the management of diarrhoea

The literature search revealed that a number of studies have been conducted on caregivers/mothers knowledge and practices on the management of diarrhoea in under-five children.

Mohammed, Sabry, Sabry and Mohammed (2018:505), in their study on paediatric malpractices in Iraq, reported that diarrhoea is a worldwide health issue, and is associated with various beliefs and practices that vary according to the region, country, ethnicity, culture and geographic location.

The WHO (2017:4) recommends certain key measures to treat diarrhoea in children, which include,

- rehydration with oral rehydration salts (ORS) solution;
- zinc supplements to reduce the duration of a diarrhoea;
- rehydration with intravenous fluids in case of severe dehydration or shock;
- a nutritious diet including breast milk during an episode of diarrhoea; and
- including and consulting a health professional, in particular for management of persistent diarrhoea or when there is blood in stool or if there are signs of dehydration.

Mohammed et al (2018:506) state that mothers use a Sagwa formula to treat diarrhoea in newborn babies, which is a mixture of parts of dead animals, together with other poisonous substances such as lead. In their study conducted in Nepal on health-service use and diarrhoea management, Ghimire et al (2018:3), in their study on health service use in Nepal, reported that of the 2655 children with diarrhoea, only 27% of the caregivers sought treatment or advice from healthcare providers.

In a study conducted in Southern Odisha on ORS preparation, Padhy, Kumar, Sethi Behera (2017:969), found that 19% of mothers had good knowledge, 65% mothers had average knowledge and the rest (16%) had poor knowledge.

Merali, Morgan and Boonshuyar (2018:6) found that in Cambodia (71,3%)of caregivers were aware of the danger signs of diarrhoea in children.

Contrary to the above findings, Padhy *et al*. (2017:970) find that only 34% of the mothers were aware of the danger signs and dehydration. 27% of the mothers were aware of treatment of dehydration.

CONCLUSION

To explore the mothers and the caregivers' knowledge and practices, the researcher reviewed various literature relevant to the study. The global, African and South African literature was perused for the researcher to have an understanding of the problem being studied. This conveyed to the researcher the ideas from other scholars regarding the knowledge and practices of mothers and caregivers of the children with diarrhoea.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter covers an overview of methodology used in the study. The discussion in the chapter is structured around the research design, population sampling, data collection and data analysis. Ethical considerations and measures to provide trustworthiness are also considered. In this study, the methodology refers to the method and the logical sequence of the research.

3.2 METHODOLOGY

3.2.1 Research design

Research designs are types of inquiry within qualitative, quantitative and mixed methods that provide specific direction for procedures in a research study (Creswell 2014:247). A qualitative exploratory research design was used to explore and describe the opinion of the caregivers/mothers regarding their knowledge and practice on the management of childhood diarrhoea. By using exploratory design, the researcher wanted to establish and understand how caregivers/mothers managed diarrhoea in under-five children.

3.2.2 Research approach

Qualitative research is an approach to exploring and understanding the meaning individuals or groups ascribe to a social or human problem (Creswell 2014:4). The focus of this study was to explore and describe the experiences of the mothers/caregivers of under-five children admitted to hospital regarding the management of diarrhoea;

therefore, a qualitative exploratory study was used**.** The use of qualitative research in this study was intended to enable the researcher to develop an in-depth understanding of the knowledge and practices of the caregivers/mothers on the management of diarrhoea in under-five children at a referral hospital in the Northern Cape as it is explained by the participants.

3.3 RESEARCH METHODS

Research methods involve the forms of data collection, analysis, and interpretation that researchers propose for their studies (Creswell 2014:243). The researcher selected the qualitative method to gain new insights into and to explore new ideas on the concept under investigation. A qualitative inquiry is highly appropriate for studying process evaluations, because the depicting process requires detailed descriptions of how people engage with one another and the experience of process typically varies for different people; therefore, their experiences need to be captured in their own words.

3.3.1 The setting

The setting for this qualitative study was the referral hospital located in the Sol Plaatje Municipality, Northern Cape Province.

3.3.2 Population

A population is defined by Burns and Grove (2013:41) as the entire aggregation of persons, set of objects, and/or the cases the researcher wants to study. In this study, the population comprised all the caregivers/mothers of children who were admitted for the management of diarrhoea to a referral hospital in the Frances Baard District.

The target population consisted of caregivers/mothers of under-five children admitted for the management of diarrhoea to healthcare facilities in the Frances Baard District, Northern Cape Province, while the accessible population consisted of caregivers/mothers of children under five years who were admitted for the management of diarrhoea to a

referral hospital. They were chosen because they had already experienced the management of diarrhoea in children; therefore, they were able to reflect on experiences they had. The idea behind qualitative research is to purposefully select participants or sites (or documents or visual material) that will help the researcher understand the problem and the research question the best (Creswell 2014:189).

3.3.3 Eligibility criteria

Eligibility criteria consisted of inclusion and exclusion criteria.

3.3.3.1 Inclusion criteria

The inclusion criteria were the caregivers/mothers of under-five children admitted for the management of diarrhoea to a referral hospital, Northern Cape.

3.3.3.2 Exclusion criteria

The caregivers/mothers with children above the age of five years. Those admitted with critically ill children were excluded from the study. Caregivers who refuse to participate in the study.

3.3.4 Sample and sampling technique

Non-probability purposive sampling was used to select the willing study participants who met the inclusion criteria to represent the desired outcomes of the study. In this study, the caregivers/mothers with under-five children admitted for the management of diarrhoea to Kimberley Hospital in Frances Baard district, Northern Cape were purposely selected by means of the admission register. The researchers decided to select people who are knowledgeable about the issues under study.

The study participants were visited in the wards to request their participation in the study. The researcher ensured that all the caregivers/mothers who agreed to take part in the interviews were given the necessary information regarding the purpose of the interview before they signed the consent forms. The participants were reminded of their rights to refuse to participate or revoke their participation without providing any explanation. Face-

to-face interviews were conducted with each of the 15 study participants to explore their knowledge in an attempt to understand diverse range of responses to the concept under study. The interviews saturated at 15th participant when the there was no longer any new information coming out of the interviews.

3.3.5 Data collection instrument

The researcher was the data collector and the interviews were conducted in English and i*siXhosa* in a quiet comfortable consulting room at the hospital. Qualitative researchers collect data themselves through interviewing participants and observing behaviour (Creswell 2014:185). A grand-tour question was used to elicit information from the study participants, such as “What do you do to manage diarrhoea in children”. The interview structure was adapted according to the participants’ responses as the interview was progressing. The consulting room had adequate light and ventilation, which contributed to a relaxed and informal atmosphere. According to Creswell (2014:185), the qualitative researchers tend to collect data in the field at the site where the participants experience the issue or a problem under the study.

3.3.6 Data collection process

With the permission of the participants, the individual interviews were audio-recorded and the field notes were written during the interview in order to capture the original accounts of the participant’s responses and to verify their interpretations by referring back to the original responses. Each participant’s responses were recorded in the spaces between the questions and at the back of the note sheet. The details that made up the interview context such as reactions, confidence in answering questions, hesitations and the tone of participants were recorded in the notes and they form part of the data. Each sheet of paper was given a code so that the actual names of the participants were not written down to maintain confidentiality. The interview process ranged from 15 to 30 minutes.

During the interview process, the researcher utilised a variety of communication skills such as attentive listening, clarifying, paraphrasing, and probing to enhance understanding and to guide the participants to elaborate on their responses. These skills

enabled the participants to respond freely to open-ended questions using their own words, giving in-depth information regarding their knowledge on the management of diarrhoea in under-five children. The researcher conducted the interviews until data saturation was reached after the 15th participant had been interviewed.

3.3.7 Data analysis

The data analysis process involves making sense of the text data. The researcher and the independent coder used the thematic data analysis process. The data was transcribed and categorised into themes for identifying similar patterns using Collaizzi's (1978) seven steps of data analysis, as cited in Bazeley (2013:65).

Step 1: Acquiring a sense of each transcript

In this step, the researcher read and reread each transcript in order to obtain a general sense of the whole content. The researcher set aside any preconceived ideas about the phenomena in the study to prevent bias of the findings.

Step 2: Extracting significant statements

In this step, the researcher extracted the significant statements that pertain to the phenomenon under the study from each transcript. The researcher recorded these statements on a separate sheet noting their pages and lines numbers.

Step 3: Formulating meanings

The researcher formulated meanings from these significant statements. Each underlying meaning was coded in one category as they reflected an exhaustive description. Then the researcher compared the formulated meanings with the original meanings maintaining the consistency of description.

Step 4: Theme clusters

The researcher grouped all formulated meanings into categories that reflected a unique structure of clusters of themes. Each cluster of theme was coded to include all formulated meanings related to that group of meanings. Thereafter, groups of clusters of themes that

reflected a particular vision issue was incorporated together to form a distinctive construct of theme.

Step 5: Exhaustive description

The findings of the study were integrated into an exhaustive description of the phenomenon. All emergent themes were defined into an exhaustive description. After merging all the study themes, the whole structure of the phenomenon had been extracted.

Step 6: Statement of identification

The fundamental structure of the phenomenon was described. The researcher checked in the findings for the redundant, misused or overestimation descriptions and eliminate them from the overall structure.

Step 7: Participant verification

The validation of findings in the study were sought from the research participants, through member checking, where data analysed were referred back to participants for review, validation and commentary.

CONCLUSION

This chapter 3 outlined the methodology that the study was following. The qualitative exploratory design was described as the approach used in this study. The data collection methods and the analysis techniques were gather data from the mothers and the caregivers.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF THE RESEARCH FINDINGS

4.1 INTRODUCTION

The previous chapter presented a research design and methodology, while this chapter focuses on the analysis, presentation and description of the findings of the study. The data collection and analysis presented in this chapter occurred according to the research methods described in Chapter 3. This chapter begins with data management and presentation, followed by data analysis and the findings of the study. The presentation of the results will be supported by the direct participants' verbatim quotes and existing literature related to the problem studied.

The interview technique of probing (verbal and non-verbal) was used. These included probing or exploring, silence, paraphrasing as well as summarizing. The researcher used phrases such as "Could you elaborate more on those points, so you are saying …". Eye contact was maintained throughout the conversation. Gestures were made by the participants, including the movement of the head, face and eyes, such as nodding or rolling of the eyes. Body positioning of each participant was noted to determine the participant's degree of attention or involvement. The researcher summarised the interview proceedings by restating in her own words the ideas and opinions of the participants, to ensure understanding. The data from unstructured individuals' interviews were organised and analysed using the thematic analysis to find repeated patterns of meaning. In this study, the data collection and analysis occurred simultaneously. The search for the important themes began from the moment the data collection got underway.

The audio recordings of the interviews were listened to in order to verify and to ensure the accuracy of the transcription. While reading the transcripts, notes were made of the researcher's thoughts, observations and the reflections that occurred. During data

analysis, Collaizzi's method was used and the transcribed data and notes collected during the interview sessions were read several times so that the researcher could become familiar with the data and search for meaningful segments.

Table 4.1 Demographic profile of participants

Demographic profile	**NO OF PARTICIPANTS**
Age of participants in years	
16-25 years	8
26-35 years	4
36-45 years	3
Family size	
Five or more dependents (large family)	9
Fewer dependents (small family)	6
Level of Education	
Primary education	9
Secondary education and higher	6
Caregivers	
Mother	10
Grandmother	3
Aunt	2
Marital status	
Single	9
Married	6

Table 4.1 shows the sociographic characteristics of mothers/caregivers who participated in the study. In total, 15 mothers/caregivers were interviewed and they were responsible for 15 under-five children who were admitted with diarrhoea. All the caregivers/mothers were females, married or single, and the majority had primary education. The socio-graphic characteristics of the participants revealed that eight of the participants were young women aged between 16 and 25. The possible reason for this could be the lack of experience in childcare and inadequate hygiene practices. Similarly, Ucheh, Eleojo, Tyoalumun and Nanpen (2017:9), in their retrospective study on incidence of diarrhoea in Nigeria, report that the majority (55%) of the nursing mothers were young women between the age of 20 and 29 years who knew little about childcare. The table also shows

that the mothers/caregivers who are older and belong to the age group of over 30 years had few children who presented with diarrhoea, probably due to the experience they have in providing the necessary care of children, which includes infection prevention practices. The findings of this study are in line with the cross-sectional study conducted in Senegal on the prevalence of diarrhoea in under-five children by Thiam *et al.* (2017:10). They report that the mothers who were over the age of 40 years had significantly reduced the risk of diarrhoea in children, and they attributed this reduction to the experience the mothers had with regard to childcare, which includes hygiene and feeding practices. The majority of the participants (9) had either no formal education or only primary education, while (6) reported to have had secondary and higher education. The findings of this study are consistent with the literature in other parts of the world that diarrhoea is more prevalent amongst mothers/caregivers with a low level of education. This can be attributed to a lack of understanding of the causes and management of diarrhoea as more a person is educated there is increase in knowledge and understanding of issues. Mohanna and Al-Sonboll (2018:31) agree with the findings of this study in their cross-sectional study conducted in Yemen, they reported that diarrhoea is more common in children whose mothers had a low level of education. Merali *et al.* (2018:10) also support the findings of this study. They state that the children of caregivers with a higher education had a lower incidence of diarrhoea in Cambodia.

The table also indicates that (9) mothers/caregivers were found to have large families, which makes it difficult for them to provide the necessary care to the children. Mohanna *and Al-Sonboll* (2018:31) agree with the findings of this study by reporting that diarrhoea is more common among children from large families than among children from small families, because diarrhoea agents are more likely to be transmitted from one person to another in large families.

Table 4.2 Child characteristics of participants

Demography and profile	**NUMBER OF CHILDREN**
Age in years	
Less than 12 months	9
1-2 years	3
3-5 years	3
Sex of a child	
Female	8
Males	7
Diarrhoea within last month	
No	5
Yes	10
Watery	9
Bloody stools with mucus	1

According to Table 4.2, 15 mothers/caregivers were selected for the study and most of the children (10) had experienced diarrhoea with watery stools or and bloody stools in the past month. This study also revealed that diarrhoea was more common in children younger the 12 months, probably due to their underdeveloped immune systems. Similarly, Mohanna and Al-Sonboll (2018:32) state that the prevalence of diarrhoea was the highest among children younger than 12 months in Cambodia. Contrary to the findings of this study, Thiam et al (2017:7) found that the higher prevalence of diarrhoea was observed among children between 24 and 59 months, and the lowest prevalence was observed among children under the age of 12 months in Senegal.

The current study revealed that diarrhoeal disease was more common in girls than amongst boys. There is no current explanation for these differences. Merali *et al.* (2018:7) support the findings of this study, that diarrhoea was more common in girls than in boys. Mohanna and Al-Sonboll (2018:13) disagree with the findings of this study. They state that more boys (54,14%) were found to have diarrhoeal disease than girls (45,86%) in their study..

4.2 THEMES AND SUB-THEMES

The results are presented through themes and their sub-themes, supported by direct, unaltered quotes of participants' discussions and literature. The participants have been allocated codes, for example, Participant 1.

Table 4.3 below reflects the themes and sub-themes related to the knowledge and practices of mothers/caregivers regarding the management of diarrhoea in under-five children.

Table 4.3 Themes and sub-themes

THEMES	SUB-THEMES
1. Existing good knowledge regarding diarrhoea disease in under-five children detected.	1.1 Existing good knowledge about diarrhoea disease in under-five children outlined
2. Existing poor practices regarding the management of diarrhoea detected.	2.1 Observed poor knowledge of ORS preparation outlined. 2.1 Observed poor utilisation of ORS described. 2.2 Observed incorrect feeding practices outlined.
3. Existing health-seeking behaviour noted.	3.1 Existing facility-based care-seeking behaviour described. 3.2 Self-prescribed medication practice outlined. 3.3 Home remedies, including herbal preparation described. 3.4 Delay in seeking healthcare described

From the thematic analysis of an individual interview data, the following theme is being discussed:

4.3 THEME 1: EXISTING KNOWLEDGE REGARDING DIARRHOEA IN CHILDREN

The table that follows depicts the theme that emerged from the interviews and the theme outlines the information provided during the interviews. The sub-themes that have been identified are presented as follows:

Table 4.4 Existing good knowledge regarding diarrhoea disease

THEME	**SUB-THEME**
4.3.1 Existing good knowledge regarding diarrhoea disease in under-five children detected.	4.3.1.1 Existing good knowledge about diarrhoea disease in under-five children outlined. 4.3.1.2 Existing knowledge about signs and symptoms of dehydration observed.

4.3.1.1 Sub-theme 1: Existing knowledge about diarrhoeal disease in under-five children outlined

During the interview session, the findings revealed that there is existing good knowledge related to diarrhoeal disease in under-five children when the participants were asked about the definition of diarrhoea and its causes. The claims were voiced by Participant 4, who indicated that:

> *Diarrhoea is the passing of more than three stools per day, and it's caused by the germs.*

Participant 6 indicated:

> *It is the passing of more than three stools in a day and it is caused by teething of the child.*

Participant 9 said:

> *I know what causes diarrhoea, (nodding the head) its dirty places.*

Participant 8 said:

(Folding arms) When the child passes more than three stool per day, and it is caused by rotten foods.

Participant 15 indicated:

Diarrhoea is the passing of two or more stools and is caused by dirty hands when you prepare the child's food.

Participant 7 said:

Mhhhh … my mother's place is dirty, that is why my child is sick.

Participant 4 was of the same opinion as others and said:

It's passing of watery stools and is caused by dirty hands. That is why my child is here.

The study revealed that the mothers/caregivers had good knowledge about the definition of diarrhoea and its causes.

4.3.1.2 Subtheme 2: Existing good knowledge about the signs and symptoms of dehydration observed

The participants were also asked about the danger signs of diarrhoea and the study revealed that the mothers/caregivers had good knowledge about the signs and symptoms of dehydration, and they claimed to have received most of the information from the medical professions. The claims were voiced as follows by the following participants.

Participant 5 indicated:

My child's eyes became small (demonstrating by hand) and she became restless and weak, and refused to eat, the sister at the clinic told us to watch out for these signs.

Participant 3 said:

My child became weak and the mouth was dry, the sister told me to watch for these dangerous signs.

Participant 1 indicated:

I have seen dry mouth and eyes became small and the body became weak the doctor told me to look for these signs when my child is sick.

Participant 4 agreed with others and said:

I saw that the child was weak and the eyes became small, and she was refusing to eat, I heard about it from the doctor.

Participant 6 said:

The nurse told us to watch for dry mouth and tongue, small eyes, body weakness; she said those are dangerous signs in a child with diarrhoea.

4.4 THEME 2: EXISTING POOR PRACTICES REGARDING THE MANAGEMENT OF DIARRHOEA DETECTED.

Table 4.5 Poor knowledge regarding the management of diarrhoea

THEME	**SUB-THEME**
4.4.1 Existing poor practices regarding the management of diarrhoea detected.	4.4.1.1 Observed lack of knowledge regarding the ORS preparation outlined. 4.4.1.2 Observed poor utilisation of ORS described. 4.4.1.3 Observed incorrect feeding practices outlined.

4.4.1.1 Sub-theme 1: Observed lack of knowledge regarding the Oral Rehydration Solution preparation

All the participants who mentioned the use of oral rehydration solution were observed as the ones who could not prepare the solution correctly, while some participants did not mention all the ingredients of the solution when asked about ORS preparation. The responses were as follows:

Participant 1 indicated:

> *When a child has diarrhoea I give bietjie warm water, 1 teaspoon salt, I teaspoon sugar.*

Participant 3 said:

> *(Crossing her legs), salt and sugar solution first, 1 litre of water, eight spoons of sugar and half a teaspoon salt.*

Participant 4 gave an outline by saying:

> *I give half a teaspoon salt, sugar, in little water and let the child drink.*

Participant 10 indicated:

> *I use ten teaspoon of sugar, two teaspoon of salt in a two-litre bottle of boiled water.*

Participant 11 indicated:

> *I give breast milk and make mixture of eight teaspoon and half teaspoon of salt in little water.*

Participant 13 said:

> *I boil one litre of water, add one spoon of sugar and salt and give the child to drink. The mixture tastes like the packets we get from the clinic.*

The findings on the current study regarding oral rehydration solution preparation were generally poor. Dawit, Kumalo, Yasin and Halala (2017:16) agree with the findings of this study on their assessment of childcare practice in Wolaita Sodo Town. They reported that

the lack of knowledge regarding ORS was the main reason for not using ORS and others lack the skill about its preparation.

The administration of correctly prepared oral rehydration solution is central to the effective and successful management of diarrhoea. The opportunities offered by contacts with the caregivers at the point of care must be utilised and maximised to educate and teach mothers and caregivers the correct method of preparing oral rehydration solution. All the caregivers/mothers who were unable to prepare the oral rehydration solution in the current study were corrected and taught on the spot. The practice of oral rehydration by the caregivers/mothers before seeking medical help still needs to be promoted by the healthcare workers to prevent unnecessary complications and deaths.

4.4.1.2 Sub-theme 2: Observed poor utilisation of ORS described

The findings revealed that there is existing poor utilisation of ORS in under-five children with diarrhoea. This was verbalised by participants during the interview session.

Participant 3 indicated:

> *I know about ORS, they always tell us about it at the clinic, but antibiotics works better for me.*

Participant 1 said:

> *I heard about ORS at the clinic, but I don't think it can work for my child (shaking head) because my child does not like it.*

Participant 13 said:

> *Yes, I use it when my child is vomiting. My neighbour told me about it.*

Participant 15 indicated:

> *Yes, I used it (nodding head), but it did not stop diarrhoea. They always tell us at the clinic to use it when the child has diarrhoea.*

Participant 6 said:

> *I know it and I heard about it from the clinic, but my child vomits when she drinks it, so I don't use it.*

Participant 7 said:

> *I heard about it at the clinic, but I prefer to use drugs they work fast for me.*

Participant 5 indicated:

> *I don't know about it, I use home remedies to treat diarrhoea.*

The majority of the participants were aware of the ORS and most of them had heard about it at the clinics, but they did not use it for various reasons. Some felt that it did not stop diarrhoea and some felt that they preferred to use drugs because they worked faster.

4.4.1.3 Sub-theme 3: Observed Incorrect feeding practices outlined

The participants demonstrated lack of knowledge regarding the feeding practices of children during diarrhoeal episodes. The incorrect feeding practices were outlined during the interview sessions conducted. The reason for this gap can be attributed to cultural practices, which is believed to be influenced heavily by the individuals such as the grandmothers and mothers-in-law who surround the mothers/caregivers especially during the period of sickness of children. The claims were voiced as follows:

Participant 6 indicated:

> *I stop the food, I stop the milk.*

Participant 4 claimed:

> *I don't give milk, milk causes diarrhoea. When I use milk, it starts again. I use black rooibos tea.*

Participant 5 said:

I do not give milk; I feed the child with custard without milk. I also take two spoons of cake flour and mix with water and feed the child.

Participant 8 indicated:

The child eats everything except milk.

Participant 10 said:

I only feed the child with sugar and salt mixture. At the clinic they don't tell us to give the child milk.

Participant 13 was of the opinion as others and indicated:

I feed the child with everything. I don't give the child milk. Nurses told us not to give children milk when they have diarrhoea.

The findings of this study revealed that the majority of the participants believed in food restrictions, especially milk during childhood diarrhoea, because they believe that milk exacerbates diarrhoea. Similarly, Afzal and Andrades (2017:237) discovered that in a Pakistani culture, people believe that several foods such breastmilk, milk and rice should be restricted during a child's illness such as diarrhoea. Contrary to the study above, Ashraf, Bhat and Mahrukh (2017:1221) found that in India, about 5,8% of the mothers continue to feed their children when they are sick, while 26% feed their children to some extent and 15,2% stopped feeding.

Mothers' dietary practices in children's diarrhoeal episodes need more awareness. Nurses need to be equipped and empowered with knowledge in order to provide sufficient information to the mothers in order to provide the best care to their children.

4.5 THEME 3: EXISTING HEALTH-SEEKING BEHAVIOUR

Table: 4.6 Existing health-seeking behaviour

THEMES	**SUB-THEMES**
4.5.1 Existing health-seeking behaviour noted.	4.5.1.1 Existing facility-based, care-seeking behaviour described. 4.5.1.2 Self-prescribed medication practice outlined. 4.5.1.3 Home remedies including herbal preparation described. 4.5.1.4 Delay in seeking healthcare described

4.5.1.1 Sub-theme 1: Existing facility-based, care-seeking behaviour described

During the interview session, the findings revealed that very few caregivers/mothers used medical services as their first point of care for the treatment of diarrhoea in under-five children. The claims were voiced as follows:

Participant 10 indicated:

> *First take her to the clinic; they give us rehydration solution.*

Participant 11 said:

> *If diarrhoea does not stop, I take the child to the clinic.*

Participant 14 indicated:

> *I take my child to the doctor when he has diarrhoea. My child eats everything we eat, I don't stop milk.*

Participant 15 was of the same opinion as others and said:

> *I take my child to the doctor, or to the clinic. My child eats bananas, potatoes because these foods hold the stools.*

Aftab *et al.* (2018:7), disagree with the findings of this study, they discovered that about 97% of the caregivers, prefer to consult with the doctor when the child is sick in Pakistan.

The findings of the interview session also revealed that some of the caregivers/mothers reported to have obtained the treatment of diarrhoea from the local shops because the shops were easily accessible and affordable. The claims were voiced as follows:

Participant 2 indicated:

I buy pain killers from the shop and give the child, its cheap.

Participant 4 said:

I give gastro medicine in white and brown bottle from Checkers, the shop is nearby.

Participant 13 indicated:

I also buy groenara medicine from checkers supermarket its close to my house, it stops diarrhoea immediately.

Participant 14 indicated:

I also use leftovers from the doctor's medication, it helps a lot.

The findings of the current study agrees with the findings of Aftab *et al.* (2018:6), who report that many caregivers use metronidazole syrup purchased from general stores to treat diarrhoea. Some of the participants are reported to have used the leftover medications from doctors' prescription when the child is sick again.

This is revealed by their voices:

Participant 7 said:

I use my sister's child medication, when he was sick with diarrhoea it helped him.

4.5.1.2 Sub-theme 2: Home remedies including herbal preparation described

During the interview session, the findings revealed that there is existence of poor practices related to the management of diarrhoea in the under-five children, as voiced by:

Participant 12 indicated:

I crush ostrich egg and mix it with a small amount of mixture of salt and water and give the child to drink three times a day.

Participant 1 said:

I also use mixture from the roots of trees, it also stops diarrhoea.

Participant 3 indicated:

I boil small peach leaves and give the child and also boil the outside peel of pomegranate fruit, give spoon after three hours, it stops diarrhoea.

Participant 4 was of the same opinion with the others and said:

I mix Maizena with water, immediately diarrhoea stops.

Participant 6 said:

My mom use ostrich egg, put it on stove, chopped it and mix with disprin and put little sugar, it stops diarrhoea immediately.

Participant 12 indicated:

I crush ostrich egg and mix it with a small amount of mixture of salt and water and give the child to drink three times a day.

Participant 13 said:

I mix half teaspoon flour with water, it stops diarrhoea.

The study findings revealed that some of the caregivers/mothers still believed in their cultural practices to manage diarrhoea in children. The mothers/caregivers explained how knowledge about home remedies is primarily passed down from elders in the household and community to younger caregivers.

4.5.1.3 Sub-theme 3: Delayed in seeking healthcare

Most mothers/caregivers reported that they first used traditional home remedies before getting further help from healthcare institutions. The voices of the participants support the findings of the study as follows:

Participant 8 said:

> *When child does not get better, I take him to the clinic.*

Participant 9 indicated that:

> *When medication does not work. I take the child to the clinic.*

Participant 13 was of the same opinion as others and said:

> *I take the child to the clinic when the mixture does not help.*

Participant 6 said:

> *When the mixture is not working I take the child to the clinic.*

Participant 4 said:

> *When fever does not go down I take the child to the doctor.*

Participant 12 indicated that:

> *When the mixture does not help, I take the child to the clinic.*

Similarly, in a study conducted in Kwazulu-Natal on health care seeking behaviour, Haskins *et al.* (2017:6) found that the respondents first give traditional medicines when a child is sick and if the medicine does not work and the condition does not improve, they take the child to a clinic.

It is noted with concern that many caregivers/mothers prefer to wait for home remedies to work before they seek medical intervention. This practice should be discouraged, if it has got side effects. Community health education is of the utmost importance since it has

the potential to establish productive contact between healthcare services and the community in order to increase the capabilities of the mothers/caregivers on the appropriate management of diarrhoea and to encourage early healthcare-seeking behaviour.

4.6 REFLECTION OF THE RESULTS

4.6.1 Theme 1: Existing good knowledge about diarrhoea disease in under-five children detected

The majority of mothers/caregivers had good knowledge about the definition of diarrhoea and its causes. They were able to define diarrhoea as the passing of more than three stools per day and they mentioned at least unhygienic conditions, dirty water and the use of contaminated food as causes of diarrhoea. Most of the information reported have been obtained from the radio and at the clinics. However, the knowledge regarding the signs and symptoms of dehydration were known to the mothers/caregivers to some extent. They were able to mention at least three danger signs and symptoms of dehydration, which included sunken eyes, body weakness and a dry tongue. The strengthening of the health talks by the healthcare professionals on the recognition of danger signs and symptoms of dehydration is of paramount importance for mothers to seek quick medical intervention to prevent more deaths in this age group. Haskins *et al.* (2017:8) suggest that health education campaigns should pay attention to the symptoms that the mothers themselves recognise as important.

4.6.2 Theme 2: Existing poor knowledge and practices regarding the management of diarrhoea detected

The study revealed that the knowledge and practice regarding the management of diarrhoea in under-five children were poor and the lack of knowledge regarding ORS preparation, poor utilization of an oral rehydration solution, and incorrect feeding practices were identified.

In the current study, the preparation and the use of ORS were not known to the majority of the caregivers/mothers. Similarly, Van der Westhuizen, Slogrove, Kunneke, and Kruger (2018:6) find that in rural areas of Western Cape, fewer children with severe dehydration had received ORS before admission, and this highlights a possible area for strengthened intervention, encouraging earlier ORS use to reduce diarrhoea morbidity and mortality.

This calls for an urgent intervention, as incorrectly prepared ORS is ineffective, and could be life threatening. The strengthening of health promotion messages to the mothers/caregivers with more focus on the benefits of correctly prepared ORS is necessary to promote adherence to the correctly prepared solution.

Incorrect feeding practices were also reported in this study. The training of healthcare professionals on health educating the mothers/caregivers on the correctly prepared locally available foods, considering the cultural beliefs and the socio-economic status of the family are important in feeding the children with diarrhoea to prevent malnutrition.

Ogbo *et al.* (2017:12) also support the recommendation that the training of healthcare workers on educating the mothers and their families on complementary foods preparation, handling and storage is of great importance to reduce diarrhoea-related morbidity and mortality in sub-Saharan Africa.

4.6.3 Theme 3: Existing health-seeking behaviour

Various healthcare-seeking behaviours by mothers/caregivers have been identified in this study, which included self-prescribed medication practice, the use of home remedies, including herbal preparation, and the use of facility based care.

The study revealed that at the beginning of illness most children received household remedies and self-prescribed medication which included the over the counter and leftover medicine which were prescribed previously or obtain from the relatives and friends. There is a need to monitor and strengthen the policy on the use of non-prescribed drugs by the government to limit the use of over the counter medication. Gohar, Khubaib and Mehmood (2017:1) discovered that the reason for people to practice self-medication and irrational use of drugs is due to poorly enforced drug-utilisation policy in Australia.

The study also revealed that the mothers/caregivers seek medical attention when the symptoms of illness get worse due to various reasons, which included availability of self-prescribed drugs and the use of home remedies. There is a need for the government to control the use of over the counter medication by strengthening its policies. The recommendation of this study is in line with the study conducted in Rwanda on caregiver delay in seeking healthcare by Umuhoza, Karambizi, Tuyisenge and Cartledge (2018:4). They suggest that the regulation of over-the-counter medication is required in order for the mothers/caregivers seek medical attention when children are sick. The study discovered that some mothers/caregivers rely on the use of over-the-counter and leftover medication to treat diarrhoea, citing the illness as mild. The mothers/caregivers must be encouraged to consult medical practitioners or healthcare service when their children are sick and be educated about the dangers of self-prescribed medication. The recommendation of the study is congruent with the study conducted in Ethiopia on self-medication practices by Bekele, Berkesa, Tefera and Kumalo (2018:5). They recommend that health education regarding the dangers of self-medication must be given attention.

Some mothers/caregivers reported the use of herbal medicines as the first point of care for children with diarrhoea before seeking for medical intervention. Since the community health workers are the members of the community, they should educate the community about the dangers of using traditional medicine in treating diarrhoea, and they must promote the use of healthcare services when the children are sick. The recommendation of this study agrees with the ideas of Haskins *et al*. (2017:8). They suggest that the healthcare messages for the caregivers must promote safe health practices and healthcare-seeking behaviour

It is worthy to note that some mothers spend time to prepare traditional medicines and wait for remedies to work instead of seeking medical intervention immediately when the child is sick. This practice should be discouraged as it may predispose the child to serious complications and increase the rate of morbidity and mortality, which may contribute to the poor health outcomes among under-five children.

4.7 CONCLUSION

The study adds to the existing knowledge of diarrhoea by demonstrating that there is a wide gap in the knowledge and practice of mothers/caregivers regarding the management of diarrhoea in under-five children. The knowledge of mothers/caregivers is essential for reducing the occurrence of diarrhoea among under-five children. Early identification and management of diarrhoea are essential to prevent death resulting from dehydration. Efforts to bridge the gap should be tackled through periodic and regular health-education programmes for mothers/caregivers.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The purpose of this chapter is to present the conclusions and recommendations based on the findings of the study presented in the previous chapter, the limitations, summary and the interpretation of the research findings, contributions of the study and conclusions.

5.2 RESEARCH DESIGN AND METHODS

The purpose of the study was to explore the knowledge and practices of mothers/caregivers of under-five children admitted with diarrhoea-related illnesses at the referral hospital in the Northern Cape. The objectives of the study were to assess the knowledge of and to identify the practices of the mothers/caregivers regarding the management of diarrhoea in children.

A qualitative exploratory design was used to address the study objectives and to enable the researcher to develop an in-depth understanding of the knowledge and practices of the mothers/caregivers on the management of diarrhoea in children. The individual interviews were conducted by the researcher.

A grand-tour question constructed in English and isiXhosa was used to gather data from a purposively selected sample of ten parents and five caregivers of under-five children admitted to a referral hospital in the Northern Cape for the management of diarrhoea.

In order to meet the inclusion criteria, the participants had to be the mothers/caregivers of children under the age of five years with diarrhoea admitted to the referral hospital. The

mothers/caregivers of children above the age of five years and those admitted with other conditions were excluded from the study.

5.3 LIMITATIONS

Even though the qualitative approach used in this study provided richness and depth of knowledge regarding the management of diarrhoea in children, it lacked generalisation of the findings because of the small sample size. The goal was not to generalise findings, but to provide a rich, contextualised understanding of mothers/caregivers' knowledge and practices regarding the management of diarrhoea in under-five children.

The description of the research method, design, procedures, population and the setting in this study gave a detailed information needed to support the transferability of the results by allowing the readers to decide whether the findings might be transferable to other settings or not.

5.4 SUMMARY AND INTERPRETATION OF THE RESEACH FINDINGS

The findings of the study are based on the research objectives and their summary is presented in the paragraphs that follow.

The interview question assessed the participant's basic knowledge and practices on the management of diarrhoea in children. According to the findings of the study, the majority of the participants had good knowledge about the definition of diarrhoea and its causes. However only four participants mentioned that they took their children to the doctor/clinic when they have diarrhoea. Most of the participants reported to have used home remedies, herbal medications, over-the-counter and leftover medication to treat diarrhoea in children. The caregivers/mothers narrated how their knowledge of home remedies was primarily passed down from elders in the household and community to younger caregivers. This is because in most communities, patients with diarrhoea receive home

or self-treatment first before seeking medical attention, since this culture is practised in some communities. This harmful practice must be discouraged, because it poses a danger to under-five children and could increase the rate of morbidity and mortality in this age group.

Regarding ORS preparation, the participants knew about the existence of ORS, but they gave incorrect information regarding the ingredients, method and measurements. About six participants mentioned that they restricted certain foods to children with diarrhoea and one of them claimed that nurses had told her at the clinic not to give milk when the child had diarrhoea. This practice of restricting food when the child is sick is attributed to cultural beliefs and the influence of the elders in the family.

The conclusion drawn is that the participants demonstrated a lack of knowledge on the management of diarrhoea in children.

5.5 RECOMMENDATIONS

5.5.1 Nurses

The findings of this study add to the existing body of knowledge regarding diarrhoea in children by demonstrating that the caregivers/mothers had poor knowledge regarding the management of diarrhoea in under-five children. Therefore, more health-education interventions are needed from the nurses.

5.5.2 development of health education guideline

The knowledge generated through this study is important for nurses in correcting all the negative practices regarding health education on diarrhoea in under-five children through improved educational interventions. The findings of the study have also provided information to health-service management for the development of the health education guide on the identified gaps.

5.6 CONCLUSION

The present study revealed that there is a wide gap in the knowledge and practice of mothers/caregivers regarding the management of under-five children. Although the mothers/caregivers were able to define the concept “diarrhoea” and most of its causes, they were lacking knowledge in describing the correct ingredients of (ORS) solution and its preparation. Poor healthcare-seeking behaviour was noted amongst the mothers/caregivers. They often used unconventional remedies to treat diarrhoea and seek appropriate care when the illness was perceived as serious.

The gaps existing among mothers/caregivers in understanding the management of diarrhoea need to be addressed by proper information, education and community activities. The strengthening of health education programmes through community meetings and radio talk shows can improve the situation.

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Kimberley

20 February 2017

Dr Eshetu Worku

Department of Health

P/B X5014

Kimberley

REQUEST TO CONDUCT A STUDY IN THE PROVINCE

Dear Sir

I am currently studying a Master's Program in Public Health through the University of South Africa (UNISA). I humble request to conduct a study in child diarrhea in one of the hospitals located in Frances Baard district. The research topic is "Knowledge and Practice of caregivers/mothers of under-five children admitted with diarrhea at Kimberley Hospital. The study is aiming at improving the health outcomes in child health.

Thanking you in anticipation.

Yours faithfully

Ms Pakama Nqadala

Contact details

Work: 053-8312884

Cell: 0827959271

7954905 NQADALA PAKAMA

40 Kekewich Drive

Monument Heights

Kimberley

1 February 2017

The Chief Executive Officer

Kimberley Hospital

Kimberley

REQUEST TO CONDUCT A STUDY AT KIMBERLEY HOSPITAL

Dear Sir

I am currently studying Masters in Public Health through the University of South Africa (UNISA). I humble request to conduct a study in your institution regarding childhood diarrhoea. The research topic is “Knowledge and Practice of caregivers/mothers of under-five children admitted with diarrhea at Kimberley Hospital. The study is aiming at improving the health outcomes in child health.

Thanking you in anticipation.

Yours faithfully

Ms Pakama Nqadala

Contact details

Work: 053-8312884

Cell: 0827959271

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UNISA university of south africa

RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES

REC-012714-039 (NHERC)

1 November 2017

Dear Mrs Pakama Nqadala

Decision: Ethics Approval

HSHDC/741/2017
Mrs Pakama Nqadala
Student No:7954905

Supervisor: Dr T Makua
Qualification: PhD
Joint Supervisor: -

Name: Mrs Pakama Nqadala

Proposal Knowledge and practice of caregivers/mothers of under five children admitted with diarrhoea at the referral hospital, in Northern Cape

Qualification: **MPCHS94**

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from 1 November 2017 to 1 November 2019.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on 2 August 2017.

The proposed research may now commence with the proviso that:

1) *The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*

2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*

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3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

4) *[Stipulate any reporting requirements if applicable].*

Note:
The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Research Ethics Committee: Department of Health Studies.

Kind regards,

Prof JE Maritz
CHAIRPERSON
maritje@unisa.ac.za

Prof MM Moleki
ACADEMIC CHAIRPERSON
molekmm@unisa.ac.za

Prof A Phillips
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PARTICIPANT INFORMATION SHEET

19/06/2017

Title: Knowledge and Practice of caregivers/mothers of under-five children admitted with diarrhoea at the referral hospital, Northern Cape**.**

Dear Prospective Participant

My name is **PAKAMA NQADALA** and I am doing research with Dr Thuledi Makua, in the Department of health studies towards a MPH at the University of South Africa. We are inviting you to participate in a study entitled Knowledge and Practice of caregivers/mothers of under-five children admitted with diarrhoea at the referral hospital, Northern Cape**.**

WHAT IS THE PURPOSE OF THE STUDY?

The purpose of this study is to explore the knowledge and practice of the caregivers/mothers of under-five children admitted with diarrhoea related illnesses at the referral hospital, Northern Cape.

WHY AM I BEING INVITED TO PARTICIPATE?

I purposefully choose you according to ethical considerations, and as the person who is assumed to be having the information relevant to the objectives of this study.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

You are a partner with whom the researcher will share the results of this study. You could have knowledge about the subject and it can benefit you with the information of the study to improve your well-being. The interview will not take longer than two hours.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and there is no penalty or loss of benefit for non-participation and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

Your presence will be important for integration, and to give you the opportunity of self-determination, and it will benefit the society, by investigating about this topic. On the other side, your absence will not allow the researcher to know about your feelings of the concerning the topic. Anyway, you have to give your consent.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

Potential risk of participation can occur when the participant can feel discomfort about emotional, physiological, social or economic in nature. If there is any discomfort during the study, the researcher will refer you to the nearest health facility where you can access relevant health care.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

Your privacy will be ensured to protect information such as beliefs, attitudes, opinion of the participant, and not sharing the information with others without the contentment of the participant. You have the right to insist that your name will not be recorder anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research OR your name will not be recorded anywhere and no one will be able to connect you to the answers you give. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings.

Your answers may be reviewed by people responsible for making sure that research is done properly, including the transcriber, external coder. Otherwise, records that identify you will be

available only to people working on the study, unless you give permission for other people to see the records.

Anonymous data will be kept for your right of beneficence, and respect your dignity and fidelity. In some case, this data may be used for research report, journal articles, and conference proceedings. Please keep in mind that it is sometimes impossible to make an absolute guarantee of confidentiality or anonymity, e.g. when focus groups are used as a data collection method.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

The audio tapes of your answers will be stored by the researcher for a period of five years in a locked cupboard/filing cabinet for future research or academic purposes; electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. The electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

There is no payment for this participation, but the reward is the opportunity that is given to you to discover about this topic, that can be benefit to you, on improving.

HAS THE STUDY RECEIVED ETHICS APPROVAL

This study has received written approval from the **University of South Africa, Department of Health Studies, Research Ethics Committee**. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please contact PAKAMA NQADALA (+2753-8328473).
Should you require any further information or want to contact the researcher about any aspect of this study, please contact PNQADALA@NCPG.GOV.ZA, and +27827959271.

Should you have concerns about the way in which the research has been conducted, you may contact my supervisor and the **Chair of the University of South Africa, Department of Health Studies, Research Ethics Committee** can be accessed through the following details:

Supervisor: Dr Thuledi Makua

Tel: +2712 429 6754

Email: makuatp@unisa.ac.za

Chair of the University of South Africa, Department of Health Studies, Research Ethics Committee: Prof J E Maritz,

Tel: +2712 429 6534

Email: maritje@unisa.ac.za.

Thank you for taking time to read this information sheet and for participating in this study.

Thank you.

PAKAMA NQADALA

CONSENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I have received a signed copy of the informed consent agreement.

Participant Name & Surname…… (please print)

Participant Signature……..Date……

Researcher's Name & Surname: PAKAMA NQADALA (please print)

Researcher's signature……..Date……

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Request for permission to conduct research at the referral hospital, Northern Cape, South Africa

Dear Sir/Madame

I, PAKAMA NQADALA am doing research with DR Thuledi Makua, in the Department of Health towards a MPH at the University of South Africa.

The purpose of this study is to Knowledge and Practice of caregivers/mothers of under-five children admitted with diarrhoea at the referral hospital, Northern Cape, South Africa.

The findings will give guidance to the health educators and health promoters to plan and address the identified gaps and provide the necessary interventions. The study will also form baseline information for researchers and program planners.

Feedback procedure will entail the participation, the collaboration, the understanding, the partnership with every person in the institution.

Should you have concerns about the way in which the research has been conducted, you may contact:

Supervisor: Dr T. Makua,

Tel: +2712 429 6754

email, *makuatp@unisa.ac.za***.**

Chair of the University of South Africa, Department of Health Studies, Research Ethics Committee: Prof J E Maritz,

Tel: +2712 429 6534

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Thank you for taking time to read this information sheet and for participating in this study.

Thank you.

Yours sincerely

PAKAMA NQADALA

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CONFIDENTIALITY AGREEMENT

Title of Research: Knowledge and Practice of caregivers/mothers of under-five children admitted with diarrhoea at the referral hospital, Northern Cape**.**

Researcher: PAKAMA NQADALA
Student Number: 7954905

As a student researcher I understand that I may have access to confidential information about study sites and participants. By signing this statement, I am indicating my understanding of my responsibilities to maintain confidentiality and agree to the following:

- I understand that names and any other identifying information about study sites and participants are completely confidential.

- I agree not to divulge, publish, or otherwise make known to unauthorized persons or to the public any information obtained in the course of this research project that could identify the persons who participated in the study.

- I understand that all information about study sites or participants obtained or accessed by me in the course of my work is confidential. I agree not to divulge or otherwise make known to unauthorized persons any of this information, unless specifically authorized to do so by approved protocol or by the local authority acting in response to applicable law or court order, or public health or clinical need.

- I understand that I am not to read information about study sites or participants, or any other confidential documents, nor ask questions of study participants for my own personal information but only to the extent and for the purpose of performing my assigned duties on this research project.

- I agree to notify the local authority immediately should I become aware of an actual breach of confidentiality or a situation which could potentially result in a breach, whether this be on my part or on the part of another person.

_____	_____	_____
Signature	Date	Printed name
_____	_____	_____
Signature of investigator	Date	Printed name

GRAND TOUR QUESTION

Title: Knowledge and Practice of caregivers/mothers of under-five children admitted with diarrhoea at the referral hospital, Northern Cape**.**

Name of student: Pakama Nqadala

Student Number: 7954905

One typical grand-tour question was used to explore the knowledge and practice of caregivers/mothers of under-five children regarding the management of diarrhoea.

Could you describe how you manage diarrhoea in your child?

Follow-up questions were asked, depending on the participant's responses.